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1900

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**PURDUE UNIVERSITY,**  
**LAFAYETTE, INDIANA.**



**AGRICULTURAL HALL.**

**TWELFTH ANNOUNCEMENT**  
**OF THE**  
**WINTER SCHOOL OF AGRICULTURE.**

**January 8th to March 23d, 1900.**

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UNIVERSITY OF ILLINOIS

## CORPS OF INSTRUCTORS IN THE SCHOOL OF AGRICULTURE.\*

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- JAMES HENRY SMART, A. M., LL. D., President of the University.
- WILLIAM CARROLL LATTI, M. S., Professor of Agriculture.
- CHARLES SUMNER PLUMB, B. S., Professor of Animal Industry and Dairying.
- JAMES TROOP, M. S., Professor of Horticulture and Entomology.
- ARVILL WAYNE BITTING, B. S., D. V. M., Professor of Veterinary Science.
- ROBERT A. CRAIG, D. V. M., Instructor in Veterinary Science.
- STANLEY COULTER, Ph. D., Professor of Biology.
- JOSEPH CHARLES ARTHUR, D. Sc., Professor of Vegetable Physiology and Pathology.
- WINTHROP ELLSWORTH STONE, Ph. D., Professor of Chemistry.
- PERCY NORTON EVANS, B. S., Ph. D., Associate Professor of Chemistry.
- HENRY AUGUSTUS HUSTON, A. M., A. C., Professor of Agricultural Chemistry.
- ERVIN SIDNEY FERRY, B. S., Professor of Physics.
- EMMA MONTGOMERY MCRAE, A. M., Professor of English Literature.
- THOMAS FRANCIS MORAN, Ph. D., Professor of History and Political Economy.
- ERNST FLUEGEL, Ph. D., Professor of German.
- GLEN LEVIN SWIGGETT, A. M., Professor of German and Spanish.
- PAULINE MARIOTTE-DAVIES, Ph. D., Professor of French.
- CLARENCE ABIATHAR WALDO, Ph. D., Professor of Mathematics.
- MOSES COBB STEVENS, A. M., Professor of Mathematics.
- THOMAS GREENE ALFORD, A. M., Professor of Mathematics.
- ERASTUS TEST, A. M., M. D., Professor of Mathematics.

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\* This list does not include the Instructors exclusively engaged in the Schools of Engineering, Science and Pharmacy.

LAURA ANNE FRY, Professor of Industrial Art.  
 ANNA EMBREE BAKER, B. S., Instructor in Wood Carving.  
 KATHERINE ELIZA GOLDEN, M. S., Instructor in Biology.  
 WILLIAM HENRY TEST, M. S., Instructor in Chemistry.  
 SEVERANCE BURRAGE, B. S., Instructor in Sanitary Science.  
 EDWARD ELLSWORTH REYNOLDS, M. E., Instructor in Physics.  
 ALFRED M. KENYON, A. M., Instructor in Mathematics.  
 MARY DOAN, B. L., M. S., Instructor in English.  
 JAMES DAVID HOFFMAN, M. E., Instructor in Wood Shop.  
 ALPHA P. JAMISON, B. M. E., Instructor in Mechanical Drawing.  
 ROBERT A. WORSTALL, B. S., Assistant in Chemistry.  
 SAMUEL MORGAN, Assistant in Forge Room.  
 FRANK HOMER CURTISS, Physical Director.  
 ELIZABETH DAY SWAN, Librarian.  
 RUTH DUNBAR RAUB, Assistant Librarian.

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### SPECIAL LECTURERS.

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ALEX. GALBRAITH, Janesville, Wis. Horses.  
 J. E. WING, Mechanicsburg, Ohio. Sheep.  
 O. E. BRADFUTE, Cedarville, Ohio. Cattle.  
 OLIVE JAQUES, Thorntown, Ind. Poultry.  
 S. D. GHERE, Thorntown, Ind. Swine.  
 C. M. HOBBS, Bridgeport, Ind. Horticulture.  
 CAL. HUSSELMAN, Auburn, Ind. Business Methods.  
 H. F. MCMAHAN, Fairfield, Ind. Science and Practice.  
 †MRS. C. H. ROBERTSON, LaFayette, Ind. Domestic Economy.  
 A. A. RICE, ESQ., LaFayette, Ind. Rural Law.

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† Formerly Instructor in Domestic Economy in the South Dakota Agricultural College.

## GENERAL STATEMENT.

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The Winter School of Agriculture is designed to meet the wants of the young men and women who desire to excel in some agricultural pursuit, and who feel the need of more thoroughly preparing for their work, but can devote only the winter season to such preparation. The course has been arranged, therefore, to give the largest amount of information and assistance possible during the winter months and allow the students to return to the farm for the busy season.

The subjects presented are those about which every one engaged in agricultural pursuits should have a definite knowledge of both the science and the art—the underlying principles and the best practice—relating thereto. In order to throw the light of science and experience upon these subjects, the faculty and specialists will be aided by practical lecturers who have been notably successful in their specialties. The class room instruction will also be supplemented by practice in the live stock judging room, veterinary hospital, farm dairy, agricultural and horticultural laboratories, greenhouse, kitchen, and by visits of inspection to herds, farms, greenhouses and other points of interest.

The courses of study outlined below will require the student to attend *two winters* to complete the work; hence, each student will be permitted to select, under the provisions named elsewhere, any subjects, leaving the others to be pursued the second winter.

Those who desire it may also take music, for which a moderate charge will be made; or, if qualified, they may enter, *without extra expense*, the regular classes in English, mathematics, or drawing.

Young women will be permitted to take any of the subjects, but they will find dairying, horticulture, floriculture, botany, drawing, household chemistry, house sanitation, domestic economy and poultry raising especially attractive and profitable.



CAMPUS.

The endorsements of former students show that the Winter School of Agriculture has proved of great value to young persons about to engage in farming. It is therefore confidently commended to the attention of every ambitious young person who wishes to excel in some branch of agriculture.

Energetic, apt, mature young men and women, desirous of securing positions on dairy, fruit, poultry and stock farms, or who wish to qualify themselves to become *expert judges*, will find the training especially profitable and helpful.

The entire cost is very light in comparison with the advantages offered. Any energetic young person can earn in a single season the money necessary to meet all the expenses of a winter's attendance.

## THE COURSES OF INSTRUCTION.

### I. For Men and Women :

- (1) Live Stock Husbandry and Veterinary Hygiene.
- (2) Farm Dairying.
- (3) Soils, Crops, Manures and Farm Buildings.
- (4) Horticulture, Economic Botany and Entomology.
- (5) Agricultural Chemistry, Farm Sanitation, Vegetable Parasites and Rural Law.
- (6) Shop Work in Wood or Iron.
- (7) Practical Lectures by Stockmen, Farmers and Horticulturists.

II. In addition to the above any of the following courses for women for which there are five applicants will be given :

- (8) Floriculture.
- (9) Household Chemistry.
- (10) House Sanitation.
- (11) Domestic Economy.
- (12) Botany.
- (13) Drawing.
- (14) Studies in Literature.

Each of the above subjects involves regular exercises in class room or laboratory. Each student will be required to select from the above the equivalent of *three full lines\** of work, including (for men) course 7, and those well prepared may take more.

\*A full line means a daily exercise in class room or laboratory.





VETERINARY ROOM.

## LIST OF SUBJECTS.

### **Live Stock Husbandry.**

PROFESSOR C. S. PLUMB.

Breeds of live stock—their characteristics and adaptations; principles of breeding; heredity; atavism; crossbreeding; inbreeding and linebreeding; feeds and feeding—carbonaceous and nitrogenous foods; nutritive ratios; feeding standards and compounding rations.

### **Veterinary Hygiene.**

PROFESSORS A. W. BITTING AND R. A. CRAIG.

Common diseases of live stock with curative and preventive treatment; sanitary care and management of herds and flocks. Students taking courses in live stock husbandry and veterinary hygiene will have ample opportunity to judge live stock, trace and make out pedigrees, and make laboratory demonstrations showing the differences in the digestive organs of the various classes of domestic animals and the peculiarities in the form and structure of animals adapted to special purposes. Daily exercises in class room or laboratory.

**Farm Dairying.**

PROF. C. S. PLUMB AND MR. H. E. VAN NORMAN.

Breeding, rearing and management of dairy cattle; foods and food combinations in relation to milk production; milking and care of milk; testing and creaming of milk; ripening of cream; churning, working and grading of butter; disposition and utilization of dairy products and by-products. Students taking this course will have thorough drill and practice in the use of modern methods of dairying, and they will conduct numerous experiments to determine the conditions essential to success in making and marketing gilt-edge butter. The instruction will be specially adapted to meet the conditions and needs of those who expect to engage in farm dairying. Two lectures and two laboratory exercises each week.



THE BABCOCK TEST FOR BUTTER FAT.

**Soils, Crops, Manures and Farm Buildings.**

PROF. W. C. LATTA AND MR. J. H. SKINNER.

Soils—their origin, classification, characteristics, impoverishment, improvement and adaptations; drainage—its relation to the physical condition and to the biological and chemical activity of the soil—its effects in wet and dry seasons—its cost and value—lands that need

drainage—location, planning and construction of drains—farm sewerage and road drainage; irrigation—value and methods of—how far feasible in Indiana; tillage—purpose, depth, frequency and kinds of; comparison of the various cultural implements; principles of cropping, crop rotation and soil-renewing crops; the making, saving, application and use of farm manures—relative cost and profit of using commercial and farm manures; the location, planning, grouping, construction, lighting and ventilation of farm buildings, including dwellings, general and special purpose barns, silos, etc. Laboratory experiments to determine the behavior of soils toward water, the effect of adding lime, humus, etc., to soils. Daily recitations and lectures, with laboratory work.

### **Horticulture, Economic Botany and Entomology.**

PROF. JAMES TROOP.

Methods of establishing orchards and gardens; desirable sites and kinds of soil; preparation of the soil; fertilizers; planting, pruning, thinning, harvesting, marketing and storing for winter use; market gardening as a business; plant diseases and their remedies; seed testing to determine vitality and best conditions for germination; harmful and beneficial insects—their structure, distribution, habits and methods of control; insecticides and their adaptation to various kinds of insects. Students taking this course will have laboratory



STUDENTS IDENTIFYING FRUIT.



practice in pruning, grafting and budding; in growing fruits and vegetables under glass; in the detection of the impurities of farm and garden seeds; in the examination of diseased and insect-infested seeds, fruits and plants, and in the identification of fruits, grasses, weeds, etc. The class room instruction will be supplemented by visits to greenhouses and nurseries in the vicinity. Daily exercises in class room or laboratory.

### **Agricultural Chemistry.**

PROF. H. A. HUSTON.

Chemical composition and characteristics of soils; composition of coarse fodders, grain and by-products; composition and value of fertilizers, manures and waste products; chemistry of animal and plant nutrition; chemistry of the dairy; chemistry of fermentation and decay. The subjects in this course will be treated with special reference to the needs of practical farmers, stockmen, dairymen and horticulturists. Two lectures each week.

### **Vegetable Parasites.**

PROF. J. C. ARTHUR.

Six lectures: Diseases of plants, causes, etc.; smut of corn and oats; ergot of rye and timothy; wheat rust; diseases of the potato; fleshy fungi.

### **Rural Law.**

A. A. RICE, ESQ.

Two lectures each week on farm law: A discussion of Indiana laws as related to highways, fences, water rights, ditching, live stock, weeds, trespassing, etc., and the legal duties, rights and responsibilities of farmers.

### **Shop Work in Wood or Iron.**

INSTRUCTORS, J. D. HOFFMAN AND SAMUEL MORGAN.

Three exercises each week in planing, sawing, rabbeting, plowing, notching, splicing, mortising, tenoning, dovetailing, framing, paneling and in other work with common carpenter's tools. Or three exercises each week in iron forging, giving practice in heating, bending, drawing, upsetting, welding, annealing, casehardening, etc. An excellent preparation for the mechanical repairing necessary on the farm.



CLASS IN SHOP WORK.

**Sanitation.**

PROF. SEVERANCE BURRAGE.

Five lectures on farm sanitation; cleanliness of stables; modern ideas on dairying; bad drainage and disease; water supply for the farm; sewage disposal on farms; general hygienic rules for the farmer.

Eight lectures on sanitation, for women; personal health; house sanitation; impurities of air and water; milk and other foods; infectious diseases; consumption as a contagious disease; school sanitation; accidents and emergencies.

**Floriculture.**

PROF. JAMES TROOP.

The uses of flowers; outdoor gardening; window gardening; soil and its treatment; suitable locations for flower beds and borders; selection, propagation and culture of flowers; winter protection; care of house plants; care of greenhouses and conservatories; insect enemies and their treatment. The students will have practice in the greenhouse in germinating flower seeds, starting cuttings, potting and watering of plants, etc.



CLASS IN FLORICULTURE.

**Chemistry of Domestic Life.**

PROF. W. E. STONE.

A series of lectures on household chemistry, including the chemistry of water, fuel, air and ventilation, salt, sugar, soap, petroleum, milk and butter, fats and oils, flour and bread, meats, canned goods, cooking and cooking utensils, etc.

**Science in Bread Making.**

MISS KATHERINE E. GOLDEN.

Several lectures on the principles involved in the making of good bread, including the nature and effects of fermentation, the kinds of ferments and their application to bread making; nature, use and keeping properties of yeast; forms on the market and methods of determining good yeast; bread, its relation to flour and yeast; causes of sour and heavy bread, etc.

**Domestic Economy.**

MRS. C. H. ROBERTSON.

If there is sufficient demand for it a series of lectures with demonstrations will be provided on cooking, household economy and care of the home. The course will include: *a*, botany, chemistry and nutritive properties of foods, selection of meats and vegetables, and the cooking and serving of different foods; *b*, arrange-

ment, ventilation and plumbing of the dwelling, and the sanitary care of cellar, kitchen, dining and sleeping rooms, etc.; c, practice in the cooking and serving of foods and in the care and decoration of the dining table.

### **Botany.**

PROF. S. M. COULTER.

A series of lectures on plant life, including, among others, the following subjects: The plant body, its several parts and their uses; plant foliage, its arrangement, modifications and uses, pollination, its purpose and how effected; distribution of plants, the ways in which it may be effected, and how weed migration may be checked; the food of plants, sources and kinds of food and how plants obtain their food; the germination of the seed, conditions of germination, changes in germination and the practical lessons they teach.

### **Literature - Hours With Noted Authors.**

PROF. EMMA MONT. MCRAE.

A series of familiar talks on noted writers will include: Franklin, the statesman, scientist and man of letters; Irving, the story teller; Bryant and the woods; Emerson and Concord; Hawthorne and the Twice Told Tales; In the Land of Evangeline; Poe, his songs and stories; Holmes, his good cheer; Whittier and Liberty; Lowell, the poet and critic; some recent story tellers.

### **Industrial Art.**

PROF. LAURA A. FRY.

A series of lectures on art in the home, showing how art study can brighten and cheer the home life. The lectures will be supplemented by laboratory practice in free hand drawing from natural objects.

### **SPECIAL LECTURERS.**

PROF. S. M. COULTER (Jan. 8-12.)

Five lectures on economic botany: The plant organism; uses of the root, stem and leaf; how plants grow; how plants feed; how a knowledge of botany will help the farmer.



MISS OLIVE JAQUES, Thorntown, Ind. (Jan. 15-19).

Five lectures on poultry: Marketing poultry; our barn yard fowls abroad; conditions of success in poultry raising; what boys and girls may do in the poultry business; profits in poultry raising.

MR. J. D. HOFFMAN (Jan. 22-26).

Five lectures on the selection and care of steam boilers, engines and other motors, including a practical discussion of the principles involved in the various motors available, as well as precautions to be observed in their operation.



CLASS JUDGING LIVE STOCK.

H. F. MCMAHAN, Fairfield, Ind. (Jan. 29-Feb. 2).

Five lectures: Science and practice on the farm; factors and conditions of success in farming; how a poor boy may start on the farm; leaves from my experience in farming; outlook for trained young men in agriculture.

MR. C. M. HOBBS, Bridgeport, Ind. (Feb. 5-9).

Five lectures: Soils and situations most favorable to fruit growing; the culture and care of the orchard and fruit garden; obstacles to be met and overcome in horticulture; the importance of the fruit garden for home use and for commercial purposes; the handling, storing and marketing of fruits.

S. D. GHERE, Thorntown, Ind. (Feb. 12-16).

Five lectures on swine husbandry: Selection of breeding stock; care of sow and pigs; best method of rearing and feeding breeding stock; best method of handling butcher's stock; measures to secure health and vigor of herd, and prevent spread of contagious diseases.

ALEX. GALBRAITH, Janesville, Wis. (Feb. 19-23).

Five lectures on horses: Feeding and care of breeding stock; care of the colt; training of young stock; feeding and care of work horses; fitting for market and selling.

O. E. BRADFUTE, Cedarville, Ohio (Feb. 26-March 2).

Five lectures on cattle: The care of the calf; the development of the cow; early maturity; feeding—aids to digestion; relation of cattle to general farming in the Middle States.

Prof. T. F. MORAN (March 5-9.)

Five lectures on economics: Money and wealth; supply and demand; taxation—theories and basis of; values.

MR. J. E. WING, Mechanicsburg, Ohio (March 12-16).

Five lectures on sheep husbandry: Selection and breeding of the flock; summer feeds and feeding; winter care and management; sheep and shepherds east and west; "Feed my lambs."

MR. CAL. HUSSELMAN, Auburn, Ind. (March 19-23).

Five lectures on business methods in agriculture, etc.: When and what to buy; when, what and how to sell; a good business reputation—its value, how established; how to find and keep a market; co-operation in buying and selling—how far feasible and advantageous; brains *vs.* muscle.

#### **THE PURDUE AGRICULTURAL SOCIETY.**

A society conducted by the agricultural students gives opportunity for drill in the discussion of many practical and economic questions, cultivates self-reliance and habits of independent thought and investigation and thus admirably supplements the work of the class room and laboratory in the training it affords. The Purdue Grange, conducted by the Agricultural faculty and students, gives additional opportunity for drill in speaking and writing on practical farm topics.

### REQUIREMENTS FOR ADMISSION.

Applicants for admission should be at least sixteen years of age and have a fair common school education. No entrance examination is required. Experience has shown that persons at least twenty years of age, who have had practical experience in farming, do the best work, derive the most good from the course and are best pleased with what they learn.

### EXPENSES.

Residents of the state pay no tuition. Non-residents pay a tuition fee of \$10.00. All students who do not hold free scholarships pay an incidental and library fee of \$10.00. Books will cost from \$3.00 to \$5.00. Furnished rooms can be rented at 75 cents to \$1.00 per week. Table board in club ranges from \$2.25 to \$2.50 per week and in private families from \$2.50 to \$3.50 per week. The following is a fair estimate of the expenses for Indiana students:

Room rent (11 weeks at 75 cents per week),	-	-	-	\$8	25
Board (11 weeks at \$2.25 per week),	-	-	-	24	75
Incidental fee (for those without scholarships),	-	-		10	00
Books,	-	-	-	3	00
Visits of inspection and miscellaneous expenses optional with the student,	-	-	-	4	00
Total,	-	-	-	\$50	00

### FREE SCHOLARSHIPS.

*Two free scholarships* are offered to each county farmers' organization in Indiana. This includes County Agricultural and Horticultural Societies, Farmers' clubs, Granges, Farmers' Institutes, County Assemblies of the Farmers' Alliance, F. M. B. A., and Patrons of Industry. Candidates for free scholarships should be elected at a meeting of the organization, provided the same is held before the opening of the term. In case no meeting is held, the president and secretary may appoint the candidates and submit the same for the approval of the association at its next meeting. Blank certificates of appointment will be supplied to the secretaries of the above associations on application. These scholarships, which are open alike to



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young men and women, are good in *any of the Agricultural Courses*, but are *not valid* unless applied for before matriculation in the University. They will effect a saving to the student of \$10 per term in the Winter Course and of \$25 to \$35 per year in the two-year and four-year Courses in Agriculture.

#### TO FORMER WINTER COURSE STUDENTS.

The daily program will be arranged, as far as possible, with reference to the needs of former Winter Course students who may return to complete the course. To all who complete the course in a satisfactory manner a suitable certificate will be awarded.

#### DATE OF OPENING.

Students will register and secure rooms and board on Monday, Jan. 8th, and recitations will begin at 8:15 A. M., Tuesday, Jan. 9th, continuing without interruption until the close of the term on March 23d. Those who expect to attend should register in advance. To all such, additional information in regard to board and rooms will be sent a week or two before the opening of the term. Students should come direct to the office of Prof. W. C. Latta, in the Experiment Station, and register before engaging rooms or purchasing books.

For further information concerning the Agricultural Courses,

Address,                      PROF. W. C. LATTA,  
LaFayette, Indiana.

For information concerning the other courses in the University,

Address,                      PRES. J. H. SMART,  
LaFayette, Indiana.

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